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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,455	07/17/2003	Yu-Tuan Lee	4459-0145P	9180

2292 7590 10/18/2005

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EXAMINER	
SHERMAN, STEPHEN G	
ART UNIT	**PAPER NUMBER**
2674	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/620,455	LEE, YU-TUAN
	Examiner	Art Unit
	Stephen G. Sherman	2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of undue length. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nohno et al. (US 6,239,788) in view of Knapp (US 5,270,711).

Regarding claim 1, Nohno et al. disclose a touch-control method of an LCD, which is to sense a touch point on an LCD screen of the LCD (Figure 1, item 31), the LCD comprising a substrate having a plurality of data lines (Figure 1, S1-SN) and a plurality of scan lines (Figure 1, G1-GM), the method comprising: a first touch-position sensing step, which detects values of liquid crystal capacitances formed between the scan lines needed to be detected and a human finger (Figure 2), respectively, and detects a scan-line-direction touch position according to values of the liquid crystal capacitances formed between the scan lines needed to be detected and a finger during idling time in-between writing periods (Column 13 lines 64 to column 14, line 10. The examiner interprets that since the y-coordinate detection voltage is taken, compared, and then the peak detection of the voltage is converted into a y-coordinate that there is a step which involves detecting the capacitance formed and that these values are then converted and then determines the position, or coordinate, of the value.), each of the scan lines turning on sequentially to write image data into the LCD screen in the writing periods (Column 12, lines 42-49.The examiner interprets that the display period is the writing period and that the coordinate detection period is the idling time in-between writing periods.); a charging step, which charges a voltage signal into each of the data lines needed to be detected (Column 18, lines 58-67. The examiner interprets that since the AC voltage is applied to the signal lines which aren't connected to the x-signal current amplifying circuit and then the process is repeated as the lines are scanned, that the signal lines which are needed to be detected would be charged with this voltage signal.); and a second touch-position sensing step, which detects values of liquid crystal

capacitances formed between the data lines needed to be detected and a finger (Figure 2), respectively, and detects a data-line-direction touch position according to the values of the liquid crystal capacitances formed between the data lines needed to be detected and the finger (Column 13 lines 64 to column 14, line 10. The examiner interprets that since the x-coordinate detection voltage is taken, compared, and then the peak detection of the voltage is converted into an x-coordinate that there is a step which involves detecting the capacitance formed and that these values are then converted and then determines the position, or coordinate, of the value.) after the voltage signal is charged (Column 18, lines 58-67. The examiner interprets that since the AC voltage is applied to the non-selected lines and the lines are scanned, that before the lines are in the selected state that they are in a non-selected state and are charged by the AC voltage signal.), wherein, the scan-line-direction touch position and the data-line touch position indicate a position of the touch point (Column 14, lines 17-20). Nohno et al. fails to teach of an LCD comprising a counter electrode panel. Knapp discloses an LCD comprising a counter electrode panel (Column 5, lines 21-29. The examiner interprets that the electrode interconnected with the capacitor could be a counter electrode.). Therefore it would have been obvious to "one of ordinary skill" in the art to integrate the electrode of Knapp into the touch-display of Nohno et al. in order to provide an alternative way to measure the capacitance between scan and data lines and a surface without the need for a touch plate, this configuration being optimum since the number of component parts necessary is minimized.

Regarding claim 2, Nohno et al. and Knapp disclose the method of claim 1. Nohno et al. also disclose a method wherein when the scan-line-direction touch position is not detected in the first touch-position sensing step, the first touch-position sensing step is repeated (Figure 6. The examiner interprets that since the detection period is repeated ever frame, that if the touch position is not detected, the step would be repeated in the next frame.).

Regarding claim 3, Nohno et al. and Knapp disclose the method of claim 1. Nohno et al. also discloses a method wherein when the data-line-direction touch position is not detected in the second touch-position sensing step, the first touch-position sensing step is repeated (Figure 6. The examiner interprets that since the detection period is repeated ever frame, that if the touch position is not detected, the step would be repeated in the next frame.).

Regarding claim 4, Nohno et al. and Knapp disclose the method of claim 1. Nohno et al. also disclose a method wherein the substrate is a TFT substrate (Column 12, lines 50-63).

Regarding claim 5, Nohno et al. and Knapp disclose the method of claim 1. Knapp also discloses a method wherein when detecting the liquid crystal capacitances formed between the scan lines and the counter electrode panel, at least one of the scan lines is skipped in the first touch-position sensing step (Column 2, lines 3-19. The examiner interprets that since the elements of those whose states are indicative of having been touched and their locations being ascertained means that the elements

that have not been touched would therefore not be sensed and in a sense would be "skipped.").

Regarding claim 6, Nohno et al. and Knapp disclose the method of claim 1. Knapp also discloses a method wherein when detecting the liquid crystal capacitances formed between the data lines and a counter electrode panel, at least one of the data lines is skipped in the second touch-position sensing step (Column 2, lines 3-19. The examiner interprets that since the elements of those whose states are indicative of having been touched and their locations being ascertained means that the elements that have not been touched would therefore not be sensed and in a sense would be "skipped.").

Regarding claim 7, Nohno et al. and Knapp disclose the method of claim 1. Nohno et al. also disclose a method further comprising a comparing-value setting step, which sets at least one scan-line comparing value and at least one data-line comparing value (Column 13, line 64 to column 14, lines 10. The examiner interprets that since the x-coordinate detection voltage and the y-coordinate detection voltage are subjected to an approximation to a curve that this would be a comparing value for each of the x and y coordinates corresponding to the data and scan lines.).

Regarding claim 8, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. discloses a method wherein when a liquid crystal capacitance formed between one of the scan lines and a finger is greater than the scan-line comparing value, the first-touch position sensing step determines the location of the scan line corresponding to the liquid crystal capacitance is the scan-line-direction touch position

(Column 13, line 64 to column 14, line 10. The examiner interprets that detecting the peak value by approximation to curves would determine that the value is greater than the comparing value and that the counting the number of clocks to determine the coordinate value would determine the touch position.).

Regarding claim 9, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also disclose a method wherein when a liquid crystal capacitance formed between one of the data lines and a finger is greater than the data-line comparing value, the second touch-position sensing step determines the location of the data line corresponding to the liquid crystal capacitance is the data-line-direction touch position (Column 13, line 64 to column 14, line 10. The examiner interprets that detecting the peak value by approximation to curves would determine that the value is greater than the comparing value and that the counting the number of clocks to determine the coordinate value would determine the touch position.).

Regarding claim 10, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also discloses a method wherein the scan-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the data lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the scan lines and the counter electrode because by adding in this minimum value the comparing value can take into account the

electrostatic coupling capacitance which exists between wiring lines and the electrode and thus a capacitance would only be detected when the LCD is touched.).

Regarding claim 11, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also discloses a method wherein the data-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the data lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the data lines and the counter electrode because by adding in this minimum value the comparing value can take into account the electrostatic coupling capacitance which exists between wiring lines and the electrode and thus a capacitance would only be detected when the LCD is touched.).

Regarding claim 12, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also discloses a method wherein the scan-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the finger and the scan lines (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the scan lines because since the purpose is to

find the scan line with the largest current flowing, or capacitance value, that it would be obvious to compare the capacitances of previously detected lines together to determine the largest value, i.e. where the LCD has been touched.).

Regarding claim 13, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also disclose a method wherein the data-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the finger and the data lines (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the data lines because since the purpose is to find the data line with the largest current flowing, or capacitance value, that it would be obvious to compare the capacitances of previously detected lines together to determine the largest value, i.e. where the LCD has been touched.).

Regarding claim 14, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also disclose a method wherein the scan-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal

to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines and the counter electrode because the purpose of the invention is to find the scan line with the largest current, or capacitance, and by taking an average value of at least two values of capacitances formed there would be less error in the detection of the position touched.).

Regarding claim 15, Nohno et al. and Knapp disclose the method of claim 7. Nohno et al. also disclose a method wherein the data-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the data lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the data lines and the counter electrode because the purpose of the invention is to find the data line with the largest current, or capacitance, and by taking an average value of at least two values of capacitances formed there would be less error in the detection of the position touched.).

Regarding claim 16, Nohno et al. disclose an LCD (liquid crystal display) (Figure 1, item 31), which has a substrate having a plurality of data lines (Figure 1, S1-SN) and a plurality of scan lines (Figure 1, G1-GM), comprising: a first sensing circuit (Figure 1, item 36), which respectively electrically connects to the scan lines needed to be detected, detects values of liquid crystal capacitances formed between the scan lines

needed to be detected and a finger, and detects a scan-line-direction touch position according to the values of the liquid crystal capacitances formed between the scan lines needed to be detected and the finger (Column 13 lines 64 to column 14, line 10. The examiner interprets that since the y-coordinate detection voltage is taken, compared, and then the peak detection of the voltage is converted into a y-coordinate that the coordinate detection circuit detects the capacitance formed, in the form of current, and that these values are then converted and the position, or coordinate, of the value determined.); a timing control circuit (Figure 1, item 39), which electrically connects to the first sensing circuit and controls the first sensing circuit to detect the liquid crystal capacitances formed between the scan lines needed to be detected and the finger during idling time in-between writing periods (Column 12 lines 31-41. The examiner interprets since the timing signal is sent to execute a coordinate detection period that it would control the detection circuit as well.), each of the scan lines turning on sequentially to write image data into the LCD screen in the writing periods (Column 12, lines 42-49. The examiner interprets that since the drive circuits are controlled during a display period that it is well known in the art to turn the scanning lines sequentially to accomplish this.); a voltage-signal generating circuit (Figure 1, items 37 and 38), which electrically connects to the timing control circuit and each of the data lines, wherein the timing control circuit controls the voltage-signal generating circuit to charge a voltage signal into each of the data lines needed to be detected after the scan-line-direction touch position is detected (Figure 1 and column 12, lines 16-30. The examiner interprets that the DC power supply circuit 37 and the AC applying circuit combine to

form the voltage-signal generating circuit. The AC applying circuit is controlled by the control circuit to charge the voltage signal, which was explained in claim 1.); and a second sensing circuit (Figure 1, item 36), which respectively electrically connects to each of the data lines needed to be detected, detects values of liquid crystal capacitances formed between the data lines needed to be detected and the finger, and detects a data-line-direction touch position according to the values of the liquid crystal capacitances formed between the data lines needed to be detected and the finger after the voltage signal is charged (Column 13 lines 64 to column 14, line 10. The examiner interprets that since the x-coordinate detection voltage is taken, compared, and then the peak detection of the voltage is converted into an x-coordinate that the coordinate detection circuit detects the capacitance formed, in the form of current, and that these values are then converted and the position, or coordinate, of the value determined after the voltage signal is charged as described in claim 1.). Nohno et al. fails to teach of an LCD comprising a counter electrode panel. Knapp discloses an LCD comprising a counter electrode panel (Column 5, lines 21-29. The examiner interprets that the electrode interconnected with the capacitor could be a counter electrode.). Therefore it would have been obvious to "one of ordinary skill" in the art to integrate the electrode of Knapp into the touch-display of Nohno et al. in order to provide an alternative way to measure the capacitance between scan and data lines and a surface without the need for a touch plate, this configuration being optimum since the number of component parts necessary is minimized.

Regarding claim 17, Nohno et al. and Knapp disclose the LCD of claim 16. Knapp also discloses an LCD wherein when the first sensing circuit detects liquid crystal capacitances formed between the scan lines needed to be detected and the counter electrode panel, at least one of the scan lines is skipped (Column 2, lines 3-19. The examiner interprets that since the elements of those whose states are indicative of having been touched and their locations being ascertained means that the elements that have not been touched would therefore not be sensed and in a sense would be "skipped.").

Regarding claim 18, Nohno et al. and Knapp disclose the LCD of claim 16, Knapp also discloses an LCD wherein when the second sensing circuit detects the liquid crystal capacitances formed between the data lines needed to be detected and the counter electrode panel, at least one of the data lines is skipped (Column 2, lines 3-19. The examiner interprets that since the elements of those whose states are indicative of having been touched and their locations being ascertained means that the elements that have not been touched would therefore not be sensed and in a sense would be "skipped.").

Regarding claim 19, Nohno et al. and Knapp disclose the LCD of claim 16. Nohno et al. also disclose an LCD wherein the substrate is a TFT substrate (Column 12, lines 50-63).

Regarding claim 20, Nohno et al. and Knapp disclose the LCD of claim 16. Nohno et al. also disclose an LCD further comprising: a comparing-value setting circuit (Figure 1, item 36. The examiner interprets that item 36 also constitutes as a

comparing-value setting circuit.), which respectively electrically connects to the first sensing circuit and the second sensing circuit, and sets at least one scan-line comparing value to be input to the first sensing circuit and at least one data-line comparing value to be input to the second sensing circuit (Figure 1, item 36 and column 13, line 64 to column 14, line 10. The examiner interprets that since the coordinate detection circuit approximates the voltages for the scan and data values to curves that these curves, or comparing values, have to be generated and would be formed by the coordinate detection circuit therefore making it a comparing-value setting circuit.).

Regarding claim 21, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein when a liquid crystal capacitance formed between one of the scan lines and the finger is greater than the scan-line comparing value, the first sensing circuit determines that the location of the scan line corresponding to the liquid crystal capacitance is the scan-line-direction touch position (Column 13, line 64 to column 14, line 10. The examiner interprets that detecting the peak value by approximation to curves would determine that the value is greater than the comparing value and that the counting the number of clocks to determine the coordinate value would determine the touch position.).

Regarding claim 22, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein when a liquid crystal capacitance formed between one of the data lines and the counter electrode panel is greater than the data-line comparing value, the second sensing circuit determines that the location of the data line corresponding to the liquid crystal capacitance is the data-line-direction touch

position (Column 13, line 64 to column 14, line 10. The examiner interprets that detecting the peak value by approximation to curves would determine that the value is greater than the comparing value and that the counting the number of clocks to determine the coordinate value would determine the touch position.).

Regarding claim 23, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein the scan-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the scan lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the scan lines and the counter electrode because by adding in this minimum value the comparing value can take into account the electrostatic coupling capacitance which exists between wiring lines and the electrode and thus a capacitance would only be detected when the LCD is touched.).

Regarding claim 24, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also discloses an LCD wherein the data-line comparing value is equal to a predetermined value plus a minimum value of the liquid crystal capacitances formed between the data lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus a minimum value of

the liquid crystal capacitances formed between the data lines and the counter electrode because by adding in this minimum value the comparing value can take into account the electrostatic coupling capacitance which exists between wiring lines and the electrode and thus a capacitance would only be detected when the LCD is touched.).

Regarding claim 25, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein the scan-line comparing value is equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitance formed between the finger and the scan lines (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the scan lines because since the purpose is to find the scan line with the largest current flowing, or capacitance value, that it would be obvious to compare the capacitances of previously detected lines together to determine the largest value, i.e. where the LCD has been touched.).

Regarding claim 26, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein the data-line comparing value is equal to a predetermined value plus on of the values of the previously detected liquid crystal capacitance formed between the finger and the data lines (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it

would have been obvious to set the curves to be equal to a predetermined value plus one of the values of the previously detected liquid crystal capacitances formed between the counter electrode panel and the data lines because since the purpose is to find the data line with the largest current flowing, or capacitance value, that it would be obvious to compare the capacitances of previously detected lines together to determine the largest value, i.e. where the LCD has been touched.).

Regarding claim 27, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein the scan-line comparing value is equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines needed to be detected and the finger (Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the scan-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the scan lines and the counter electrode because the purpose of the invention is to find the scan line with the largest current, or capacitance, and by taking an average value of at least two values of capacitances formed there would be less error in the detection of the position touched.).

Regarding claim 28, Nohno et al. and Knapp disclose the LCD of claim 20. Nohno et al. also disclose an LCD wherein the data line comparing value is equal to a predetermined value plus an average of a least two values of the liquid crystal capacitances formed between the data lines needed to be detected and the finger

(Column 13, line 64 to column 14, line 10 and column 14, lines 27-31. The examiner interprets that the curves of which the values are approximated to would be the data-line comparing value and that it would have been obvious to set the curves to be equal to a predetermined value plus an average of at least two values of the liquid crystal capacitances formed between the data lines and the counter electrode because the purpose of the invention is to find the data line with the largest current, or capacitance, and by taking an average value of at least two values of capacitances formed there would be less error in the detection of the position touched.).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

7 October 2005

REGINA LIANG
PRIMARY EXAMINER